

**ABSTRACT OF THE DISCLOSURE**

[0039] A multiplexing or demultiplexing system comprises an optical fiber interface and a concentric spectrometer coupled to the optical fiber interface. The concentric spectrometer multiplexes or demultiplexes optical signals and subjects such optical signals to a relatively low amount of optical aberrations. Thus, using the concentric spectrometer to multiplex or demultiplex optical signals within an optical network helps to reduce spreading of the channels within the optical network.